



Martin O'Malley, Governor
Anthony G. Brown, Lt. Governor
John R. Griffin, Secretary
Eric Schwaab, Deputy Secretary

March 19, 2009

Colonel Dionysios Anninos
Norfolk District Commander
United States Army Corps of Engineers
803 Front Street
Norfolk, Virginia 23510-1096

RE: Maryland position on a preferred alternative for the Final Programmatic
Environmental Impact Statement for restoring oysters to Chesapeake Bay

Dear Colonel Anninos:

The purpose of this letter is to officially inform you of the State of Maryland's position regarding the identification of a preferred alternative for the Final Programmatic Environmental Impact Statement for oyster restoration in the Chesapeake Bay, including the use of native and/or nonnative oysters. For reasons outlined below, Maryland favors a modified option 8 (a), depending entirely upon native oysters for restoration and aquaculture purposes, and a reliance on large sanctuary areas and a fishing mortality based management effort in lieu of a harvest moratorium.

Five years ago, in 2004, the State of Maryland, Commonwealth of Virginia and U.S. Army Corps of Engineers agreed to assess various alternatives to restore oyster populations both to meet ecological and economic goals. This effort was undertaken in recognition that our collective efforts to restore the Chesapeake Bay's native oyster, *Crassostrea virginica*, for their ecological function and socio-economic values were not yielding desired results. Our lack of progress toward Bay oyster restoration goals resulted in failure to increase the ecological function of oysters and a continued erosion of the Bay's oyster industry. This had also led to increasing interest in some quarters in the use of a nonnative oyster to help overcome disease challenges for both restoration and aquaculture purposes, including industry trials to expand the use of a triploid nonnative oyster, *C. ariakensis*, in aquaculture.

Despite this interest in nonnative expansion, the partners have agreed to protect the Bay ecosystem against the possible introduction of reproducing nonnative oysters by rejecting alternative 8 (c). Some partners continue to favor some level of expansion of sterile nonnative oysters in aquaculture settings. Yet we have learned through the PEIS process that this alternative, 8 (b), will with certainty result in the *de facto* introduction of a reproducing population of nonnative oysters. Thus the only viable option remaining is to recommit ourselves to our native oyster for both ecological restoration and industry revitalization.

In fact, in its 2003 report, *Nonnative Oysters in Chesapeake Bay*, the National Resource Council of the National Academy of Sciences concluded that continued and/or expanded use of triploid nonnative oysters would result in a *de facto* introduction of a reproducing nonnative oyster population. This led to a commitment from our agencies and the U.S. Congress to fully investigate, through preparation of a Programmatic Environmental Impact Statement, this issue as well as alternatives including: the continued or expanded use of the native oyster; native oyster aquaculture; and the implementation of a temporary native oyster harvest moratorium.

The State of Maryland and its partners have spent valuable time and significant resources on this project. We have obtained peer reviewed scientific research and evaluations, conducted citizen outreach regarding tolerance for the risks and benefits associated with both native and/or nonnative oyster restoration strategies, and investigated industry revitalization alternatives. Through this process we have obtained significant new information regarding the risks and benefits associated with using the nonnative oyster, *C. ariakensis*, and a greater amount of information about the opportunities and challenges for the Bay's native oyster. Significant contributions that this Programmatic Environmental Impact Statement has provided as we proceed in developing and implementing oyster restoration and management plans include:

- **Centralized Database of Information** – The PEIS process produced a “library” of all literature and movement towards a centralized database for oyster management. This will provide improved access to available information. Obtaining this information allowed for the development of a Bay-wide assessment of annual disease (Dermo and MSX) prevalence and intensity; creation of a GIS layer of existing Bay-wide oyster bar habitat; and development of an improved method for estimating oyster mortality and growth rates.
- **Development of New Management Tools** – The establishment of a framework to evaluate the biological, ecological, and socio-economic risks and benefits of native and/or nonnative oyster restoration alternatives produced several state-of-the-art modeling and assessment tools that will facilitate future management. These include: larvae transport model, demographic model, ecosystem impact model, ecological risk assessment, socio-economic assessment, and cultural assessment. The utility of these models and assessments will improve as data deficiencies are addressed.
- **Identification of Data Deficiencies** – Despite the fact that oysters are one of the most studied living resources of Chesapeake Bay, we learned through this PEIS process that there remain significant deficiencies in our understanding of basic life history parameters (growth, survival, and recruitment), trends in oyster abundance, fishing mortality rates, and relevant socio-economic information. Obtaining this information is a critical need for management, and this list of data deficiencies will enable resource management agencies to execute a priority list of applied research projects.
- **Evaluation of Restoration Alternatives** – The PEIS provided the most comprehensive and transparent evaluation of a range of Chesapeake Bay oyster restoration alternatives

ever performed. Some alternatives that have been debated for years, including the implementation of a temporary harvest moratorium, use of disease-selected strains for oyster restoration, increased scale of restoration, and emergence of natural disease resistance were evaluated and peer reviewed through this process.

We are now at the point where each agency must use the best available science and input from those potentially affected by our decision to select a preferred alternative for the Final PEIS. Each partner must choose the alternative which it believes is in the best interest of its citizens and the long term restoration and viability of our oyster populations, dependant industries and the Chesapeake Bay ecosystem.

Maryland Position

Based on careful consideration of the information provided through the Programmatic Environmental Impact Statement process and extensive public discourse **the State of Maryland has decided to remain fully committed to using *only* the native oyster to work towards our goals of ecological restoration and industry revitalization.** It is our sincere hope that as a partnership we can reach agreement on one preferred alternative, modified 8 (a) that combines the following elements, limited to native oysters:

- Alternative 2 – Enhance efforts to restore the native oyster.
- Modified Alternative 3 – Implement more restrictive oyster harvesting measures that are biologically, and economically sustainable and include accountability measures.
- Alternative 4 – Expand the use of triploid and disease-resistant native oyster aquaculture operations.

Concurrent to recent work on the PEIS, in 2007 the Governor and Maryland General Assembly commissioned a new Oyster Advisory Commission, tasked with reviewing past restoration efforts and recommending changes to Maryland's oyster restoration strategies. After almost two years of concurrent analysis of past and prospective restoration strategies, the Commission recently issued its 2008 report. This PEIS decision is supported by Maryland's 2008 Oyster Advisory Commission report.

We understand that the Corps and Commonwealth of Virginia remain interested in the continued and expanded use of the triploid nonnative oyster, *C. ariakensis*, in aquaculture. However, the available science indicates that even with stringent bio-security measures there remains a certainty that this action *will* at some point in the near or distant future result in a *de facto* introduction of reproducing nonnative oysters. The State of Maryland is not willing to accept this risk. **The State of Maryland has decided to adopt a “zero-risk” policy for the use of the nonnative oyster, *C. ariakensis*.** This policy is based upon the precautionary principle given the potential for significant negative ecological consequences and the irreversible nature of this action.

We provide the following additional points to support this alternative:

- It is a fact that the Bay states have not exhausted all strategies to restore native oysters, and until we do, we should not accept the risks of the introduction of a reproducing (diploid) nonnative oyster, or continued or expanded use of a triploid nonnative oyster for aquaculture, even with bio-security. As we have stated earlier, there is scientific consensus that continued or expanded use of triploid *C. ariakensis* will result in a *de facto* introduction of reproducing nonnative oysters.
- Past native oyster restoration efforts have been limited in scope (i.e. scale), lacked an ecological focus and prevented a regional, large-scale response. For example, since 1994, the state and federal government combined have invested 77% of available funding in Maryland on *industry* recovery efforts.
- Experts in the field of oyster disease research have provided new information during the course of this project that indicates the emergence of natural disease resistance, particularly in the higher salinity waters of Virginia. This information suggests that more restrictive fishery management measures will foster natural disease emergence. Only 4% of Maryland's natural oyster bars are currently closed to harvesting.
- Every local and regional scientific organization and local, state and federal governmental body that commented upon the Draft PEIS strongly opposed any use of a nonnative oyster. States from Maine to Texas expressed similar views. The U.S. Environmental Protection Agency has stated that they will elevate the PEIS if any use of a nonnative oyster is included in the Record of Decision, and the U.S. Fish and Wildlife Service indicated they would request further consultation if this decision is made. There seems to be a forgone conclusion that a decision to proceed with a nonnative oyster will result in years of conflict, possible litigation and a significant investment of time and effort better spent on focusing our efforts to restore native oysters to the Bay.
- Finally, by choosing a course that emphasizes triploid-aquaculture use of *C. ariakensis*, we would be effectively focusing public attention on an aquaculture specific strategy that, by definition, is expected to yield little benefit to our larger task of oyster population restoration.

We recognize the challenges that lie ahead of us with remaining committed to our native oyster, including: the need to obtain and sustain an order of magnitude increase in funding to support implementation; the impacts of disease; the degradation of oyster bar habitat and limitations for shell material; worsening Bay water quality conditions; and the need to streamline the process for obtaining aquaculture lease permits.

The results of this PEIS project have, however, created new opportunities for us to overcome these challenges. Our preliminary thoughts for advancing native oyster restoration include the following elements:

- **Focus on targeted restoration strategies.** Develop separate strategies to achieve oyster restoration for ecological purposes from those to restore commercial production.
- **Develop a large oyster sanctuary program.** The current network of sanctuaries in Maryland is made up of small dispersed areas comprising only 4% of the remaining oyster bar habitat, and was developed ad hoc over many years. Within this enlarged sanctuary network, we will identify a select number of large areas in strategically located areas for targeted restoration. Restoration work will include the rebuilding and rehabilitation of oyster bar habitat and planting of hatchery seed oysters. These areas will be selected based on current water quality and restoration potential, wild oyster larvae dispersal patterns, and the realities of establishing enforceable boundaries. We also will select areas that include a wide range of salinity regions to facilitate work to increase disease resistant strains of oysters.
- **Constrain traditional wild oyster fishery.** Recognizing that our restoration efforts will need to be targeted to a few select areas due to funding limitations, we are discussing the establishment of a conservative, bay-wide fishing limit. Using this approach, we would establish an annual harvest quota and specific harvest areas which we would monitor and close the fishery upon quota achievement. Allowing the fishery to continue at a conservative level will provide an opportunity to transition this fishery from one largely dependent upon public resources to privatized aquaculture.
- **Shift commercial production to aquaculture.** Coordinate a strategy to help Maryland's traditional wild oyster fishery become privatized. Bringing together Maryland's aquaculture action plan and emergency crab funds available to assist transition to aquaculture using triploid and disease-resistant native oysters. The private sector, with transitional support from emergency blue crab funding and private sector investment, will increasingly assume most of the cost of commercial production.
- **Rehabilitate oyster bar habitat.** A key limiting factor is available hard substrate for oyster colonization. At least 10,000 acres of oyster bottom will need to be rehabilitated over time to facilitate large-scale recovery efforts. Current oyster bar rehabilitation efforts have been enhanced by the availability of watermen to work on habitat restoration projects through the blue crab emergency funding. Regarding shell materials, we are exploring new methods for reclaiming oyster shell under an experimental permit and evaluating substitute materials. We are also preparing an application in coordination with Maryland's Oyster Advisory Commission to again dredge buried shell from the upper Bay. In 2009 we plan to restore 1,600 acres of oyster bar habitat.

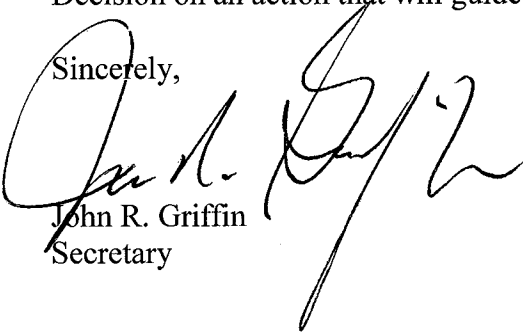
- **Manage against oyster disease.** To address ongoing challenges presented by oyster disease, the plan will pursue two approaches. By selecting sanctuaries in lower salinity zones for targeted restoration, we will avoid the greatest disease challenges. In lower salinity zones where disease pressure is lowest, natural oyster reproduction is also low, so a complementary hatchery stocking program will be required. In higher salinity sanctuary areas, where disease is more prevalent, we will restore habitat and promote development of natural disease resistant oysters. While recent trends in disease mortality offer some hopeful signs, a multi-decadal timeframe will be required to yield results.
- **Increase hatchery production.** Up to 2 billion hatchery oysters will likely be needed annually for a minimum of 10 years to support efforts to restore the ecological function of oysters. In 2007, the State of Maryland authorized \$9.2 million to expand setting capacity of the UMCES oyster culture facility. A small percentage of these hatchery oysters will initially support commercial production, but over time private hatcheries will be expected to satisfy the hatchery seed demands of private aquaculture operations.
- **Enhance law enforcement.** We are working to address problems with the enforcement of oyster harvesting restrictions and compliance with oyster harvest reporting requirements. The transition from our current patchwork of sanctuaries, managed reserves, and natural oyster bars to establishment of large sanctuaries in targeted areas will likely be the most cost-effective strategy for improving enforcement. We are also actively exploring enforcement using remote sensing technology as it becomes available.
- **Obtain increased funding.** Maryland is interested in partnering with Virginia to obtain increased funding to support the ecological restoration and industry revitalization of our native oyster. Immediate funding opportunities include:
 - Federal Stimulus Package - This provides Maryland and Virginia a unique opportunity to obtain a significant amount of immediate funding to support the implementation of strategies to restore the ecological function and industry revitalization of native oysters. Working together toward a common vision for oysters will facilitate the development of a bi-state grant proposal, and improve our ability to obtain this funding.
 - U.S. Army Corps of Engineers Native Oyster Master Plan Development – The Baltimore and Norfolk Districts are currently working with Maryland and Virginia on the development of a master plan for restoring native oysters to the Bay. This plan is building upon information made available from the PEIS. Development of this plan will enable the Corps to seek \$50 million that was authorized through a 2007 amendment of the Water Resources Development Act.

- Federal Blue Crab Fishery Disaster Funding – The Maryland Department of Natural Resources and Virginia Marine Resources Commission each received a \$10.0 million reimbursable grant from the U.S. Department of Commerce's National Marine Fisheries Service, which is effective March 1, 2009 through February 28, 2012. An additional \$5.0 million will likely be made available to each state. This funding is in response to the federal Chesapeake Bay blue crab fishery disaster declaration. These funds will be used to mitigate the economic impact of Maryland's blue crab regulations, and avoid future disaster declaration of this fishery. Maryland plans to utilize a portion of this funding to employ watermen to rehabilitate oyster bar habitat, provide aquaculture training and outreach to watermen, and provide initial infrastructure (i.e. larvae setting facilities, equipment, hatchery seed) support for aquaculture development.
- **Performance Measures and Accountability Principles.** Incorporate the following management principles in the overall plan to restore the ecological function and industry revitalization of the native oyster: 1) wise use of science and monitoring; 2) development of performance measures; 3) explicit cost-benefit analysis; 4) adaptive management; and 5) public accountability.

It will take significant investment, the unwavering commitment of all stakeholders and a new level of sophistication and discipline in targeting strategies to restore oysters in the Bay. However, the introduction of nonnative species has had major, and frequently deleterious, consequences to coastal ecosystems around the world. Given the major public commitments and investments to restore the Chesapeake Bay ecosystem, precaution dictates that the risk of even inadvertent introduction should be avoided and that restoration and culture of native oysters should be our sole focus.

As you continue your deliberation towards the U.S. Army Corps of Engineers decision on a preferred alternative, please let us know if there are any questions or concerns with which we may be able to assist you. We look forward to working with you, the Commonwealth of Virginia, cooperating federal agencies, and our project partners as we construct a Record of Decision on an action that will guide our efforts to restore oysters to the Bay for years to come.

Sincerely,


John R. Griffin
Secretary

Colonel Dionysios Anninos

March 19, 2009

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cc: The Honorable Preston Bryant, Secretary, Virginia Department of Natural Resources
Jeff Corbin, Assistant Secretary, Virginia Department of Natural Resources
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